

Amendments to the Claims

Claim 1. (currently amended) A method for producing a rigid, closed-cell polyurethane foam having a free-rise density of from about 1.3 lbs./ft.³ to about 4 lbs./ft.³ and exhibiting a shrinkage of less than 10%, comprising mixing together:

(a) an isocyanate,

(b) at least one polyol having a hydroxyl number of from about 150 to about 800 and being selected from the group consisting of polyalkoxylated amines, polyalkoxylated ethers, and polyester polyols, wherein all of said at least one polyols make up from 50% by weight to 100% by weight of all polyols in the reaction mixture; and

(c) at least one blowing agent selected from the group consisting of methyl formate, derivatives of methyl formate, precursors of methyl formate, and combinations thereof, wherein all of said at least one blowing agents make up more than about 80% by weight of all blowing agents in the reaction mixture;

to form a reaction mixture curable to produce the foam.

Claim 2. (canceled)

Claim 3. (currently amended) A method as set forth in claim 12, further comprising the step of reacting the isocyanate and the at least one polyol in the reaction mixture to produce the foam.

Claim 4. (currently amended) A method as set forth in claim 3, wherein the at least one blowing agent is methyl formate.

Claim 5. (original) A method as set forth in claim 4, wherein the method comprises mixing together (a), (b), (c) and water as a second blowing agent to form the reaction mixture.

Claim 6. (canceled)

Claim 7. (currently amended) A method as set forth in claim 46 wherein methyl formate makes up more than about 90% by weight of all blowing agents in the reaction mixture.

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Claim 8. (original) A method as set forth in claim 7 wherein methyl formate makes up more than about 95% by weight of all blowing agents in the reaction mixture.

Claim 9. (canceled)

Claim 10. (currently amended) A method as set forth in claim 59 wherein methyl formate and water together make up more than about 90% by weight of all blowing agents in the reaction mixture.

Claim 11. (original) A method as set forth in claim 10 wherein methyl formate and water together make up more than about 95% by weight of all blowing agents in the reaction mixture.

Claim 12. (original) A method as set forth in claim 11 wherein methyl formate and water together make up more than about 98% by weight of all blowing agents in the reaction mixture.

Claim 13. (currently amended) A method as set forth in claim 59 wherein CFCs, HCFCs and HFCs together make up less than about 20% by weight of the blowing agents in the reaction mixture.

Claim 14. (original) A method as set forth in claim 13 wherein organic compounds other than methyl formate make up less than about 20% by weight of the blowing agents in the reaction mixture.

Claim 15. (original) A method as set forth in claim 13 wherein organic compounds other than methyl formate make up less than about 2% by weight of the blowing agents in the reaction mixture.

Claim 16. (original) A method as set forth in claim 14 wherein the reaction mixture is free of CFCs, HCFCs and HFCs.

Claim 17. (original) A method as set forth in claim 16 wherein the reaction mixture is free of substituted and unsubstituted hydrocarbon blowing agents other than methyl formate.

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Claim 18. (original) A method as set forth in claim 16 wherein the reaction mixture is free of organic blowing agents other than methyl formate.

Claim 19. (original) A method as set forth in claim 5 wherein the methyl formate and water are the only blowing agents in the reaction mixture.

Claim 20. (currently amended) A reaction mixture curable to form a rigid, closed-cell polyurethane foam having a free-rise density of from about 1.3 lbs./ft.³ to about 4 lbs./ft.³ and exhibiting a shrinkage of less than 10%, comprising:

(a) an isocyanate,

(b) at least one polyol having a hydroxyl number of from about 150 to about 800 and being selected from the group consisting of polyalkoxylated amines, polyalkoxylated ethers, and polyester polyols, wherein all of said the at least one polyols making up from 50% by weight to 100% by weight of all polyols in the reaction mixture, and

(c) at least one blowing agent selected from the group consisting of methyl formate, derivatives of methyl formate, precursors of methyl formate, and combinations thereof, wherein all of said at least one blowing agents make up more than about 80% by weight of all blowing agents in the reaction mixture.

Claim 21. (currently amended) A reaction mixture as set forth in claim 20 wherein the at least one blowing agent is methyl formate.

Claim 22. (original) A reaction mixture as set forth in claim 21, further comprising water as a second blowing agent.

Claim 23. (canceled)

Claim 24. (canceled)

Claim 25. (currently amended) A reaction mixture as set forth in claim 20, consisting essentially of:

(a) an isocyanate,

(b) at least one polyol having a hydroxyl number of from about 150 to about 800 and being selected from the group consisting of polyalkoxylated amines, polyalkoxylated ethers, and polyester polyols, wherein all of said at least one polyols make up from 50% to 100% by weight of all polyols in the reaction mixture;

(c) from 0% to about 50% by weight of at least one other polyol, and

(d) at least one blowing agent selected from the group consisting of methyl formate, derivatives of methyl formate, precursors of methyl formate, and combinations thereof, wherein all of said at least one blowing agents make up more than about 80% by weight of all blowing agents in the reaction mixture.

Claim 26. (original) A reaction mixture as set forth in claim 25 wherein the blowing agent is methyl formate.

Claim 27. (original) A reaction mixture as set forth in claim 26, further comprising water that acts as a second blowing agent.

Claim 28. (original) A rigid, closed-cell polyurethane foam having a free-rise density of from about 1.3 lbs./ft.³ to about 4 lbs./ft.³ and exhibiting a shrinkage of less than 10%, produced by the method of claim 3.

Claim 29. (canceled)

Claim 30. (currently amended) A foam as set forth in claim 28~~7~~ wherein the gas is free of CFCs, HCFCs, HFCs and hydrocarbons.

Claim 31. (original) A foam as set forth in claim 28 wherein the foam is suitable for use as a flotation foam.

Claim 32. (original) A foam as set forth in claim 28 wherein the foam is suitable for use as structural foam.

Claim 33. (original) A foam as set forth in claim 28 wherein the foam is suitable for use as an insulation foam.

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Claim 34. (original) A watercraft comprising a foam as set forth in claim 31.